STAIRVILLE

# picoLase Frosty

## showlaser

th•mann
MUSIC IS OUR PASSION

user manual

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# 1 General notes

This user manual contains important information on safe operation of the device. Read and follow all safety notes and all instructions. Save this manual for future reference. Make sure that it is available to all persons using this device. If you sell the device to other users, be sure that they also receive this manual.

Our products are subject to a process of continuous development. We therefore reserve the right to make changes without notice.

**Symbols and signal words**

This section provides an overview of the symbols and signal words used in this user manual.

| Signal word | Meaning |
|---|---|
| **DANGER!** | This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided. |
| **WARNING!** | This combination of symbol and signal word indicates a possible dangerous situation that can result in death or serious injury if it is not avoided. |
| **NOTICE!** | This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided. |

| Warning signs | Type of danger |
|---|---|
| | Warning – laser radiation. |

| Warning signs | Type of danger |
| --- | --- |
| | Warning – suspended load. |
| | Warning – danger zone. |

# 2 Safety instructions

**Intended use**

Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device has been designed exclusively for show applications.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

**Laser safety basics**

Laser safety requirements are based on DIN EN 60825-1. The corresponding accident prevention regulation of the Accident Prevention and Insurance Association in Germany is BGV-B2.

This device contains a class-3B laser.

As an operator you are responsible for the safety of all persons present. Familiarize yourself with the laser safety regulations that apply in your country. To ensure safe operation, it is important to pay attention to the following instructions.

Prior to commissioning, the company/operator must appoint a qualified person as laser protection officer in writing and notify the operation of the laser equipment to the Accident Prevention and Insurance Association and to the authority responsible for occupational safety. In the event of public use, the complete laser equipment must be approved by an expert (e. g. the Technical Control Board TÜV) prior to commissioning.

## Safety

**DANGER!**

**Danger for children**

Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard!

Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke!

Never let children unattended use electrical devices.

**DANGER!**

**Laser radiation – avoid exposure to beam**

The device contains a class-3B laser, classified according to EN 60825-1. Do not look into the laser beam. The laser beam can injure your eyes when you directly look into it. Do not expose yourself to the laser beam. The laser beam can cause skin burns.

In this context take extreme care when using converging optical instruments.

**WARNING!**

**Eye damage caused by high light intensity**

Never look directly into the light source.

**WARNING!**

**Risk of epileptic shock**

Strobe lighting can trigger seizures in photosensitive epilepsy. Sensitive persons should avoid looking at strobe lights.

**NOTICE!**

**Laser radiation – risk of fire**

Keep the area exposed to laser radiation free from flammable substances.

**NOTICE!**

**Risk of fire**

Do not block areas of ventilation. Do not install the device near any direct heat source. Keep the device away from naked flames.

**NOTICE!**

**Operating conditions**

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.

**NOTICE!**

**External power supply**

The device is powered by an external power supply. Before connecting the external power supply, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly the user.

Unplug the external power supply before electrical storms occur and when the device is unused for long periods of time to reduce the risk of electric shock or fire.

**NOTICE!**

**Risk of fire due to incorrect polarity**

Incorrectly inserted batteries may destroy the device or the batteries.

Ensure that proper polarity is observed when inserting batteries.

**NOTICE!**

**Possible damage by leaking batteries**

Leaking batteries can cause permanent damage to the device.

Take batteries out of the device if it is not going to be used for a longer period.

# 3 Features

This compact showlaser is specially suited for discos, clubs, bars, small stages, etc.. It projects two-colored patterns similar to broken ice or frozen windows that constantly change in form and size. By the countlessly often broken laser beams, a large area can be illuminated at appropriate distance with various figures.

Special features of this device:

- Control via infrared remote control and via a button on the unit
- Built-in automatic show programmes
- Sound control
- Various setup and mounting options
- Red laser diode (100 mW), green laser diode (30 mW…50 mW)

The scope of delivery comprises of: IR remote control with suitable button cell battery, flexible tripod, mounting plate with double-joint arm, mounting material, power adapter.

# 4 Installation

Unpack and check carefully there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the device against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

You can place the device with the flexible tripod on a table or mount it with the multiple-use double-joint arm and the mounting plate to the wall, the ceiling or the floor.

**DANGER!**

**Laser radiation**

During installation, follow these instructions: *Chapter 2 'Safety instructions' on page 7*.

**WARNING!**

**Stray laser radiation**

Inadequately secured additional components may cause stray laser radiation.

Make sure that all additional components are adequately secured.

**WARNING!**

**Risk of injury caused by falling objects**

Make sure that the installation complies with the standards and rules that apply in your country. Always secure the device with a secondary safety attachment, such as a safety cable or a safety chain.

**NOTICE!**

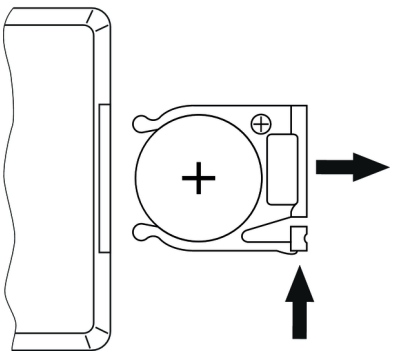
**Risk of overheating**

The distance between the light output and the illuminated surface must be more than 0.5 m (19.7 in).

Always ensure sufficient ventilation.

The ambient temperature must always be below 40 °C (104 °F).

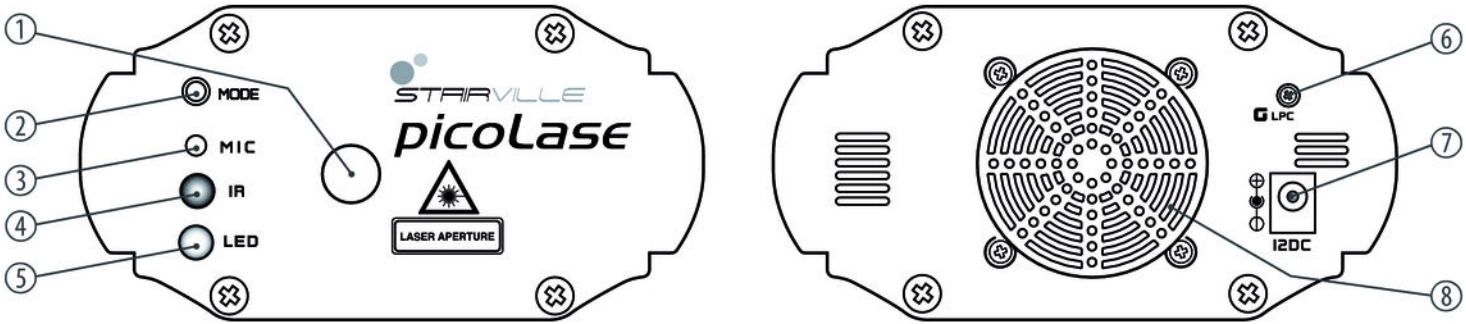
**Inserting the battery into the remote control**



Press the lock of the battery holder to the centre of the housing and pull out the battery holder like a drawer. Insert the battery. The battery is correct if the positive pole points to the housing base of the remote control. Slide the battery holder back into the remote until it clicks into place.

When shipping, the battery is already installed in the remote and protected against discharge by a transparent plastic foil. Remove the plastic foil prior to first use.

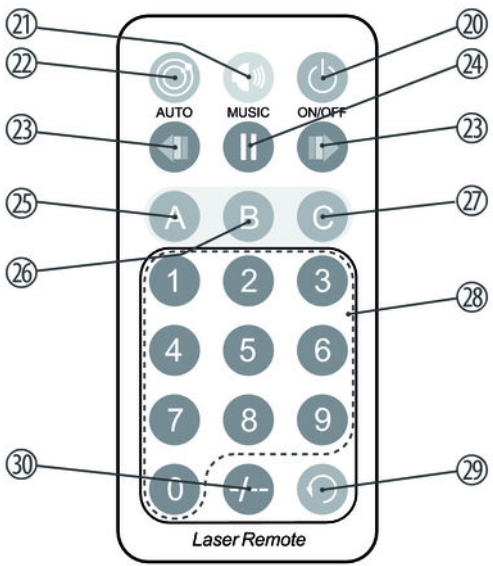
# 5 Components and functions



| | |
|---|---|
| 1 | Laser aperture. |
| 2 | **MODE**<br>Button to switch the device on / off and to select the operating mode.<br>Briefly press the *[MODE]* button to successively call the following operating modes:<br>■ Automatic show in random order, type „Emotion“, the LED (5) constantly lights up red.<br>■ Automatic show in random order, type „Smooth“, the LED (5) constantly lights up red.<br>■ Sound-controlled show without strobe effect (flashlight), the LED (5) lights up blue when the built-in microphone responds to the music.<br>■ Sound-controlled show with strobe effect (flashlight), the LED (5) lights up blue when the built-in microphone responds to the music. |
| 3 | **MIC**<br>Microphone for operating mode ‘Music’. |
| 4 | **IR**<br>Sensor for the infrared signal from the remote control. |

| | |
|---|---|
| 5 | **LED**<br>Indicates the current operating mode. |
| 6 | **LPC**<br>Adjusts the brightness of the green laser diode. |
| 6 | **12DC**<br>Connection socket for the supplied power adapter. When using another power adapter you have to make sure it provides the correct voltage, the same plug polarity and enough power. |
| 7 | Fan. |

**Remote control**



| | |
|---|---|
| 20 | *[ON/OFF]*<br>To switch the laser unit on and off. |
| 21 | *[MUSIC]*<br>Starts a sound-activated auto show in random order. Press the button again to switch between the normal music-controlled show and the music-controlled show with strobe effect (flashlight). In the operating mode 'Music', the LED (5) on the device lights up blue when the built-in microphone responds. To modify the sensitivity and thus the response characteristic of the microphone press a key on the numeric keypad from *[1]* (lowest sensitivity) to *[9]* (highest sensitivity). |
| 22 | *[AUTO]*<br>Starts an auto show in random order. Press the button again to switch between the show types 'Emotion' and 'Smooth'. The LED (5) on the device lights up red in operating mode 'Show'. |
| 23 | Toggles between various colour combinations. Successively available are: red + green, green, red. |
| 24 | Pauses a running show and restarts it. |

| | |
|---|---|
| 25 | *[A]*<br>Controls the strobe effect for the red colour in manual mode. Press a button on the numeric keypad from *[1]* (fast) to *[8]* (slow), *[0]* (off) or *[9]* (on). |
| 26 | *[B]*<br>Controls the strobe effect for the green colour in manual mode. Press a button on the numeric keypad from *[1]* (fast) to *[8]* (slow), *[0]* (off) or *[9]* (on). |
| 27 | *[C]*<br>Controls the effect speed in manual mode. Press a button on the numeric keypad from *[1]* (slow) to *[9]* (fast) or *[0]* (no movement). |
| 28 | Numeric keypad for direct value entering. |
| 29 | To change the rotational direction of the effect in manual mode. |
| 30 | No function. |

# 6 Operating

## 6.1 Starting up the device

Follow these steps to put the device into operation:

1. Check to see whether all laser safety precautions have been taken. Make sure that nobody is in range of the laser beam.
2. If not already done, connect the power adapter of the device to a mains power outlet.
3. Connect the DC supply cable of the power adapter to the '12DC' socket (6) of the device. Fan and motors start working after some seconds, the laser beam turns on. The unit is now operational.
4. If the unit does not turn on, press the *[MODE]* button (2) on the device or the *[ON/OFF]* button (20) on the remote control, until the LED (5) lights up.

## 6.2 Stopping the device

1. Press the *[MODE]* button (2) on the unit or press the *[ON/OFF]* button (20) on the remote control, until the LED (5) turns off.
2. Disconnect the DC supply cable of the power adapter from the '12DC' socket (6) of the device

# 7 Troubleshooting

**DANGER!**

**Laser radiation inside the housing**

When troubleshooting, follow these instructions: *Chapter 2 'Safety instructions' on page 7*.

Any servicing of the unit (with open housing) must only be carried out by qualified technicians.

For working on the device you have to wear suitable laser safety goggles.

In the following we list a few common problems that may occur during operation. We give you some suggestions for easy troubleshooting:

| Symptom | Remedy |
|---|---|
| The unit does not work, no light, the fan does not run | 1. Check the mains power connection and the main fuse. |
| | 2. Check the connection between power adapter and laser unit. |
| No response to remote control | 1. Try to use the remote control with a different angle to the sensor on the front panel. If the device receives a signal from the remote control, the LED (5) lights up briefly. |
| | 2. Check the remote control battery. |

If the procedures recommended above do not succeed, please contact our Service Center. You can find the contact information at *www.thomann.de*.

# 8 Cleaning

**DANGER!**

**Laser radiation**

When cleaning, follow these instructions: *Chapter 2 'Safety instructions' on page 7*.

**Optical lenses**

Clean the exterior of accessible optical lenses periodically to optimise light output. The frequency of cleaning depends on the operating environment: wet, smoky or particularly dirty surroundings can cause more accumulation of dirt on the optics of the device.

- Clean with a soft cloth using normal glass cleaning products.
- Always dry the parts carefully.

# 9 Technical specifications

| | |
|---|---|
| Laser medium | Red: 650 nm (typical), LD GaAlAs; green: 532 nm (typical), DPSS Nd:YVO4 |
| Laser power | Red: 100 mW; green: 40 mW |
| Laser classification acc. to EN 60825-1 2007 | 3B |
| Beam diameter at outlet aperture | < 5 mm |
| Pulses | All pulses < 4 Hz (> 0.25 s) |
| Divergence (per beam) | < 2 mrad |
| Divergence (overall light) | < 160° |
| Battery (remote control) | Lithium button cell, CR 2025, 3 V |
| Operating voltage supply | DC 12 V ⎓, 600 mA, through supplied power adapter |
| Dimensions (W × D × H) | 117 mm × 92 mm × 46 mm |
| Weight | 350 g |

# 10 Protecting the environment

**Disposal of the packaging material**

For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose these materials with your normal household waste, but make sure that they are fed to a recovery. Please follow the notes and markings on the packaging.

**Disposal of batteries**

Batteries must not be disposed of as domestic waste or thrown into fire. Dispose of the batteries according to national or local regulations regarding hazardous waste. To protect the environment, dispose of empty batteries at your retail store or at appropriate collection sites.

**Disposal of your old device**

This device is subject to the European directive 2002/96/EC. Do not dispose the device with your normal household waste.

Dispose this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.